

Mineral Industry Surveys

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SULFUR IN DECEMBER 2003

During the month, production of recovered elemental sulfur was 790,000 metric tons, according to the U.S. Geological Survey (USGS). December production was 2% higher than November 2003, and slightly higher than that of December 2002. Shipments were 2% higher than those of November 2003. Producers' ending stocks for December 2003 were 206,000 tons.

Import and export data for December 2003 were not available at the time of publication and will be published in the Sulfur in

January 2004 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for November 2003 were estimated to be 205,000 tons; exports were 27,000 tons. Imports of sulfuric acid for November 2003 were 71,000 tons; exports were 12,000 tons. Sulfur imports are estimated using reports from the U.S. Census Bureau, data from other published sources, and personal communications with industry experts.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources
	Petroleum ²	Natural gas	Total	
2002:				
January-December	6,750	1,760	8,500	8,490
December	611	168	779	755
2003:				
January	601	169	770	767 ^r
February	526	148	674	658
March	597	161 ^r	758	739
April	625	167 ^r	791	807
May	626	141	767 ^r	763 ^r
June	560	125 ^r	685 ^r	676 ^r
July ^r	599	153	752	757
August	577	142 ^r	719 ^r	719 ^r
September	564	133	697	707 ^r
October ^r	563	152	715	716
November ^r	626	148	774	782
December ^p	643	147	790	797
Total	7,110	1,790	8,890	8,890

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries ²	
	Quantity ^c	Value ³	Quantity	Value ³	Quantity ^c	Value ³
2002:						
January-December	1,950	9,450	430	11,300	2,560	26,800
January-November	1,770 ^r	8,350	385	9,620	2,310 ^r	23,100
November	180	843	29	942	232	2,230
December	180	1,100	45	1,640	252	3,720
2003:						
January	180	1,280	44	2,460	224	3,740
February	170	2,330	45	1,850	215	4,250
March	200	2,870	45	2,130	245	5,660
April	190	2,950	44	2,380	234	5,230
May	200	4,160	45	2,530	266	7,760
June	180	2,940	44	2,410	241	6,270
July	160	2,440	45	2,180	241	6,390
August	160	2,040	45	1,940	267	4,820
September	160	2,910	44	2,070	213	6,160
October	160	2,460	49	2,470	229	5,760
November	160	2,850	45	2,170	205	6,860
Total	1,920	29,200	495	24,600	2,580	62,900

^cEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentalSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2002:									
January-December	615	201	17,900	217	71	3,750	1,060	344	36,400
January-November	570 ^r	186 ^r	16,600	187	61	3,210	917	297 ^r	33,800
November	51	17	1,390	28	9	1,010	93	31	3,080
December	45	15	1,310	30	10	548	142	47	2,590
2003:									
January	38	13	1,330	29	9	511	67	22	1,900
February	30	10	1,080	25	8	836	57	19	2,360
March	42	14	1,740	19	6	279	63	21	2,480
April	44	14	1,680	--	--	--	54	18	2,200
May	34	11	1,320	29	10	638	75	25	2,710
June	26	8	963	40	13	1,350	84	27	2,770
July	23	8	1,020	19	6	318	82	27	1,950
August	19	6	980	74	24	751	103	34	2,410
September	22	7	1,150	9	3	382	70	23	2,230
October	35	11	1,520	1	(4)	36	104	34	1,550
November	33	11	1,590	1	(4)	36	71	23	3,350
Total	346	113	14,400	246	79	5,140	830	273	25,900

^rEstimated. ^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

⁴Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2002:					
January-December	555	40,000	148	49	12,800
January-November	541 ^r	34,700	124	44	12,600
November	60	2,400	9	3	839
December	14	5,300	14	5	1,190
2003:					
January	107	3,440	12	4	1,380
February	63	3,410	16	5	1,150
March	31	2,020	11	3	1,360
April	90	2,910	12	4	1,430
May	41	2,430	22	7	1,610
June	11	1,780	21	7	1,790
July	53	3,520	28	10	2,430
August	57	2,190	27	9	2,060
September	50	2,090	23	7	1,910
October	72	4,360	12	4	1,200
November	27	4,880	12	4	1,170
Total	602	33,000	195	64	17,500

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^e	Consumption
2002:			
January-December	7,930	2,560	10,500
January-November ^r	7,190	2,310	9,500
November	687	232	919
December	741	252	993
2003:			
January	660 ^r	224	884 ^r
February	595	215	810
March	708	245	953
April	717	234	951
May	722 ^r	266	988 ^r
June	665	241	906
July	704 ^r	241	945 ^r
August	662 ^r	267	929 ^r
September	657 ^r	213	870 ^r
October	644 ^r	229	873 ^r
November	755	205	960
Total	7,490	2,580	10,100

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	December 2003 ^p		November 2003		Total 2003 ²		Year to date 2002 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	22	23	18	17	229	232	233 ^r	233 ^r
Natural gas	2	2	2	2	26	26	27 ^r	27 ^r
Total	24	25	20	19	255	257	260 ^r	260 ^r
PAD 2:								
Petroleum and coke	71	72	80 ^r	76 ^r	885	877	852 ^r	850
Natural gas	4	4	4	4	51	51	48 ^r	47
Total	74	76	83 ^r	80 ^r	936	928	900	897
PAD 3: ³								
Petroleum and coke	428	435	417 ^r	436	4,600	4,630	4,440 ^r	4,420 ^r
Natural gas	32	31	39	38	446	444	428 ^r	429 ^r
Total	460	466	457 ^r	474	5,040	5,080	4,870 ^r	4,850 ^r
PAD 4 and 5: ⁴								
Petroleum and coke	122	120	111	109 ^r	1,400	1,370	1,220 ^r	1,220 ^r
Natural gas	109	110	102 ^r	101 ^r	1,260	1,260	1,250 ^r	1,260 ^r
California	92	91	84 ^r	80	1,080	1,060	965	962
Total	232	230	214 ^r	210 ^r	2,660	2,630	2,470 ^r	2,480 ^r
Grand total	790	797	774 ^r	782 ^r	8,890	8,890	8,500 ^r	8,440 ^r

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions to prior months.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2003			2002 total
	December	November	Year to date	
Production	9.30 ^p	9.42 ^r	8.89	8.50
Shipments	9.38 ^p	9.51 ^r	8.89	8.49
Exports of sulfur	NA	0.33	0.66	0.56
Imports of sulfur:				
Canada	NA	1.95 ^e	2.10 ^e	1.95
Mexico	NA	0.55	0.54	0.43
Total ²	NA	2.49 ^e	2.82 ^e	2.56
Export of H ₂ SO ₄	NA	0.15	0.21	0.15
Import of H ₂ SO ₄ :				
Canada	NA	0.40	0.38	0.62
Europe	NA	0.01	0.27	0.22
Total ²	NA	0.86	0.91	1.06
Consumption: ³				
Domestic sources	NA	9.19	8.18	7.93
Imports	NA	2.49 ^e	2.82 ^e	2.56
Total	NA	11.68	11.00	10.50
Sulfur export values ⁴	NA	\$181	\$55	\$72
Sulfur import values: ⁴				
Canada	NA	\$18	\$15	\$5
Mexico	NA	\$48	\$50	\$26
Average	NA	\$33	\$24	\$10
H ₂ SO ₄ export values ⁴	NA	\$98	\$90	\$86
H ₂ SO ₄ import values: ⁴				
Canada	NA	\$48	\$41	\$29
Europe	NA	\$36 ^e	\$21	\$17
Average	NA	\$47	\$31	\$34

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Because December trade data were not available, December consumption was not determined.

⁴Average value per ton for most recent data available.